BULLETIN OF MISCELLANEOUS INFORMATION No. 6 1937
ROYAL BOTANIC GARDENS, KEW

XXX—NOTES ON COLLETIA SPECIES. J. R. Sealy.

The genus *Colletia* (*Rhamnaceae*) is confined to the temperate parts of South America, and contains about twenty very closely allied species, three of which, *C. infausta* N. E. Br. (Bot. Mag. t. 3644, as *C. horrida*), *C. cruciata* Hook. (Bot. Mag. t. 5033), and *C. armata* Miers, have been in cultivation a long time, whilst a fourth, *C. hystrix* Clos, was introduced about ten years ago. The first and third have both been grown for many years under the name *C. spinosa* (syn. *C. horrida*), whilst *C. cruciata*, though it differs from *C. spinosa* and from the plants grown under that name as much as one plant could well differ from another in this genus, was at one time said to be no more than a form of that species. This view was first put forward by Lindley (in Journ. Hort. Soc. London, **5**, 29, c. fig. : 1850), who had received a branch of what proved to be *C. cruciata* from Mr. James Barnes, head gardener to Lady Rolle of Bicton, with the information that it was from a seedling that had been raised from " *C. horrida*," that is *C. spinosa* of gardens. Though Hooker cast doubt on the veracity of this statement when he figured *C. cruciata* in the Botanical Magazine, t. 5033, the view that this species was merely a form of *C. spinosa* persisted, and was considered as amply justified by Masters when he received a shoot of typical *C. cruciata* bearing a branch that was very similar to *C. spinosa*, see Gard. Chron. N. Ser. **9**, 243, fig. 43 (1878). The late Dr. N. E. Brown, however, had apparently never been satisfied that the case for uniting the two species was really proved, and in an article in the Gardeners' Chronicle, Ser. 3, **60**, 108, 121, 131 (1916) he effectively disposed of it, and showed that *C. cruciata* and *C. spinosa* were perfectly distinct species, and that although the former might occasionally produce branches superficially resembling those of the latter, yet this was merely an interesting case of branch dimorphism and could not be interpreted as indicating that the two species were identical.

In the second part of his article Dr. Brown dealt with the confusion that existed regarding *C. spinosa*, and with the identity of the garden plants to which that name had been applied. So far as the garden plants were concerned, Brown found that they represented two distinct species and that neither of them was the true *C. spinosa*. One of these species he identified with *C. armata* Miers ; for the other he proposed a new name, *C. infausta* N. E. Br., pointing out that it was in cultivation in the first half of the last century and was figured in the Botanical Register, t. 1776 (1836) and in the Botanical Magazine, t. 3644 (1839) under the name *C. horrida*, a name

to which it was not entitled. The typical forms of these two species can be distinguished from one another by the following characters :—

C. armata : branches and spines hairy ; calyx-tube about 5 mm. long and about 2–2·5 mm. in diameter, lobes 2 mm. long ; anthers borne on quite evident and easily seen filaments, clearly exserted from the calyx-tube ; flowers Sept.–Nov.

C. infausta : branches and spines glabrous ; calyx-tube 6–7 mm. long and about 4 mm. in diameter, lobes 3 mm. long ; anthers borne on very short and not easily seen filaments, and not reaching above the top of the calyx-tube ; flowers March–April.

It recently became necessary to verify the naming of a Kew plant of *C. armata* which it was proposed to figure for the Botanical Magazine, and which was known to be not quite typical, inasmuch as it lacked the pubescence characteristic of that species. Although the branches and spines seem to be quite glabrous, careful examination with a hand-lens shows that they are actually minutely pubescent here and there, but even so they are very different from the obviously hairy field-specimens of *C. armata* and other plants in cultivation under this name, which have the branches and spines densely clad with short spreading hairs. In other vegetative features the Kew plant falls within the range of variation of *C. armata* and its flowers are typical of that species ; it cannot be regarded as more than a form of the species, and it is hardly worthy of a distinctive name. As, however, its subglabrous nature may lead to confusion in gardens with the normally completely glabrous *C. infausta*, it may be useful to distinguish it as forma *subglabra*.* There is a specimen in the Kew Herbarium, collected by Meyen in Chile, which agrees with *C. armata* in all respects except that it is completely glabrous. It was, no doubt, on this character that Miers referred the specimen—it is a very small piece—to his *C. pungens*, but it differs considerably from typical *C. pungens* in the size and form of its branches and spines, whilst the flowers seem to be more like those of *C. armata* than *C. pungens* ; only in being glabrous does this specimen agree with *C. pungens* and differ from *C. armata*.

C. infausta, as Brown himself pointed out, seems to be most closely allied to *C. invicta* Miers, from which it differs chiefly in being quite glabrous, *C. invicta* being softly puberulous. The specimen which Brown described as *C. infausta* var. *coarctata*, however, is found to be minutely puberulous, a character that Brown, who distinguished it from typical *infausta* by the spines being less spreading, seems to have overlooked. The presence or absence of indumentum is not altogether a reliable character in this genus,† and it is possible

* *C. armata* Miers forma *subglabra* Sealy, forma nova a typo ramis spinisque interdum minute pubescentibus glabrescentibus recedit. Typus in Herb. Kew.

† In *C. ulicina* Hook., a very well-marked species, the branches and spines are usually very densely hairy, but in the Kew Herbarium there are three shoots, mounted together and all collected by Gillies, one with the branches and spines practically glabrous, another in which they seem to be quite glabrous, whilst in the third they are densely hairy.

that *C. infausta* is more nearly related to *C. invicta* than is supposed. *C. invicta*, however, appears to have shorter branchlets and spines than *C. infausta*, but since it is known to me only from Miers' description, it is not possible to say anything more definite at the moment. Of the origin of *C. infausta* nothing seems to be known beyond the fact that it was said to be a native of Chile and Mendoza (Argentina), and that Lindley, in Bot. Reg. t. 1776, states that " it is often raised from Chilian seeds under the name of *Retanilla*." Brown could find no field-specimens to match it, and none have come to hand since his time.

The Identity of C. spinosa.

In order to verify the naming of the garden plants, it was necessary to check Brown's conclusions regarding the nomenclature of the plants which had been confused under that epithet, and it soon became apparent that these conclusions were, in part, contrary to the modern rules of botanical nomenclature. Eventually it became necessary to re-investigate the history and identity of the plants concerned, and the results of this enquiry are given below.

The genus *Colletia* was named by Commerson, who apparently founded it upon a plant which he had collected, probably at Buenos Aires. The first description of the genus was published by A. L. de Jussieu in his Genera Plantarum, p. 380 (1789), where, however, the name is given as " *Colletia* Comm.", and where it is stated that it was " named after D. Collet, a compatriot of Commerson and a strong opponent of the Tournefort system of classification, who had worked on the flora of Bresse, the work, however, not yet published." Jussieu stated that the characters given were taken from the plant collected by Commerson in " Brazil " (that is, Buenos Aires), and also from specimens collected by Jos. de Jussieu in Peru ; this is important for it so happens that the two plants are not conspecific. Jussieu only gave a description of the genus, and did not propose any species, so that there is no reason to attribute any of the subsequent confusion to him. His description of the stamens, however, reads : " Anthers 5 subsessile inserted at the top of the calyx between the lobes," and whilst in Commerson's plant from Buenos Aires the anthers *are* subsessile, in Jos. de Jussieu's Peruvian plant they are clearly exserted from the " calyx " on quite long filaments. The inference may perhaps be drawn that the description given by A. L. de Jussieu is Commerson's, and that Jussieu himself did no more than identify Jos. de Jussieu's Peruvian plant as belonging to the same genus as Commerson's plant. He may have modified the generic description a little, and it seems likely that he did so, for the shrubs are described as being " sometimes almost without leaves, sometimes leafy with opposite leaves," and we know that whilst there was a drawing of the Peruvian plant by Jos. de Jussieu showing the leaves, the extant Commerson specimen is aphyllous and, moreover, belongs to a species which is either aphyllous or has the leaves very soon caducous.

In 1791, J. F. Gmelin (in Linn. Syst. Nat. Ed. 13, **2,** 408) provided the first specific epithet in the genus, proposing the name *Colletia spinosissima* and giving a reference to Jussieu, Genera Plantarum. He was obviously unaware that *Colletia*, as described in Jussien's work, contained two species, and since Gmelin's brief diagnosis does not apply to one more than to the other, the name *Colletia spinosissima* rests on a mixture of two species. For some reason Gmelin's name was completely overlooked, or ignored, for twenty-eight years, and then it was placed as a synonym of another name proposed during the intervening period. De Candolle quoted it as a synonym in the Prodromus in 1825 and Lindley mentioned it in 1850 (Journ. Hort. Soc. l.c.), but after that it disappeared, even from synonymy, and no more was heard of it until the present time.

Six years after Gmelin had published the name *spinosissima*, Lamarck, in the Tableau Encyclopédique et Méthodique, Bot. **2,** 91 (1797),* proposed the name *C. spinosa* to cover the plants on which the genus was founded, so that this name covers exactly the same material as the earlier *spinosissima* ; *C. spinosa* is therefore a superfluous name, a " nomen illegitimum " according to the Rules of Botanical Nomenclature (Art. 60), and must be rejected. Lamarck's description covers the Commerson plant from Buenos Aires and Jos. de Jussieu's plant from Peru, both of which he cites, but his figure, according to a note after the Latin explanation of the plate, p. 91, was taken from a picture by Joseph de Jussieu, and therefore represents the Peruvian plant. The plate (t. 129) bears only the generic name (with its French equivalent) and it appeared in 1797, but possibly some time before the text, for in 1798 Willdenow (in Linn. Sp. Pl. **1,** 1113) proposed another name, *C. horrida*, for the only species he had in *Colletia* ; under it he cited " *Colletia. Lamarck. encyclop. tab.* 129." but he made no reference to Lamarck's text or to his specific epithet *spinosa*. Curiously enough, also, although Willdenow cited Jussieu, Gen. Plant. where Commerson's plant from " Brazil " and Jos. de Jussieu's from Peru are both mentioned, he himself gave only " Brasilia " for the distribution of his *C. horrida*. This name evidently covers the same material as the earlier *spinosissima* and hence, like *spinosa*, it must be regarded as a *nomen illegitimum*.

The next reference to these plants is by Ventenat, in his Descrip. Pl. Nouv. Jard. Cels, p. 92 (1800), who cited *C. horrida* Willd. with *C. spinosa* Lam. as a synonym, and added three more species to the genus—all of which have since been transferred to other genera. Persoon (Synop. Pl. **1,** 245 : 1805) merely copied from Ventenat, but Poiret (in Lamarck, Encycl. Méthod. Suppl. **2,** 312 : 1811) had *C. spinosa* Lam. with *C. horrida* as a synonym, and gave a description which corresponds with that given by Lamarck.

* The date on the title-page is actually 1793 ; for the dates of publication of this, and the volumes of the Encyclopédie méthodique, see Journal of Botany, XLIV. 318 (1906).

Roemer and Schultes (Syst. Veg. **5, 512** : 1819) brought together all the foregoing literature, under the name *C. spinosa* Lam., citing as a synonym, along with *C. horrida*, the *C. spinosissima* of Gmelin. They also published two new species, *C. polyacantha* and *C. spicata*, both of which were apparently proposed by Willdenow, in MS., for plants collected in Peru by Humboldt and Bonpland. *C. spicata* belongs to another genus (*Scypharia*), but *C. polyacantha* was reduced as a synonym to "*C. horrida*" by Kunth in Humboldt, Bonpland and Kunth, Nova Genera et Species Plantarum, **7,** 59 (1824), although he realised that Humboldt and Bonpland's plant did not correspond with Jussieu's specimens. From the description it is evidently a distinct species. De Candolle (Prodr. **2,** 28 : 1825) included it, together with *C. horrida* and *C. spinosissima*, as synonyms of *C. spinosa*, and added "Chile" to the distribution of the species—for what reason is not apparent.

Two years later Brongniart figured a *Colletia* under the name "*C. horrida* Vent.", but he says nothing about the origin of the plant, and, according to N. E. Brown (l.c.), its identity is doubtful, but it may be *C. ferox*. Then Hooker, in his Botanical Miscellany, **1,** 153, 154 (1829),* identified with *C. spinosa* two of Gillies' plants, both of which were subsequently referred to other species, one (var. α of Hooker) to *C. pungens* Miers, and the other (var. β of Hooker) to *C. veprecula* Miers. A few years later a "*C. horrida*" was in cultivation in English gardens and was figured in the Bot. Reg. t. 1776 (1836) and in the Bot. Mag. t. 3644 (1839) ; this is the plant which N. E. Brown named *C. infausta* in 1916.

It will be realised that by 1840 the identity of *C. spinosa* had become thoroughly confused, and it must be placed to Miers' credit that when he dealt with the genus in 1860 (in Ann. & Mag. Nat. Hist. Ser. 3, **5,** 201–216, reprinted in Contrib. Bot. **1,** 251–266 : 1861) he did much to straighten out the tangle, although unfortunately he himself introduced a certain amount of confusion. He made no mention of Gmelin's name *spinosissima* and evidently overlooked it, but he took *C. spinosa* Lam. as the oldest name for any *Colletia*. Realising that the Buenos Aires and Peruvian plants included under *C. spinosa* by Lamarck represented two different species, he chose the Commerson specimen from Buenos Aires as the type of *C. spinosa*, and this is the only specimen he cited for it—"Buenos Aires :—*v.s. in herb. Jussieu, in Mus. Paris* (Commerson)." Not only did he choose the Commerson specimen as the type of *C. spinosa* but he also made *C. spinosa* the type of the genus, stating "This species must be considered as the type of the genus which . . . was first proposed by Commerson for a plant of his own collection," and his choice of the Commerson specimen as the type is obviously quite reasonable. Moreover, whether he realised it or not, the Commerson plant agrees with the original generic description

* The date on the title-page is 1830, but see Marshall in Kew Bull. 1936, p. 87.

in having subsessile anthers, a character in which the Peruvian plant differs. Miers identified the Peruvian specimens collected by Jos. de Jussieu with a specimen collected by Dombey at Tarma, also in Peru, and described them as a new species, *C. aciculata*. Unfortunately, however, Miers gave a confused account of the origin of Lamarck's figure of *C. spinosa* and erroneously stated that it was drawn from the Commerson specimen, and this has tended to obscure his perfectly sound work with regard to the specimens that had been confused under the name *C. spinosa*. The extent to which he went astray (he was in his seventy-first year when his paper appeared) may be judged from the following extracts from his work and the comments I have made upon them.

(1) " Poiret (in 1811) first detailed the characters of the genus." This is manifestly erroneous ; Miers may have meant that Poiret was the first to include other species in the genus, but even this would be wrong for Poiret merely followed Ventenat in this respect.

(2) " Poiret states (Encycl. Méthod. Suppl. ii. 312) that Lamarck figured his type from the plant brought from Peru by Jos. de Jussieu, and from Brazil (Buenos Aires) by Commerson ; but he evidently confounded two species together."

The first part of this is quite wrong, Poiret says merely that the plant grows in Peru and Brazil whence it was brought by Jos. de Jussieu and Commerson. The only reference to the origin of Lamarck's figure is given by Lamarck himself, and he says that it was taken from a picture by Jos. de Jussieu (" Fig. ex icon. Josephi Juss."—Lamarck, p. 91).

(3) " I have seen the original specimens of these two plants, which are preserved in the Jussieuan Herbarium, and fastened on the same sheet. Commerson's specimen above described appears to be that figured by Lamarck as *Colletia spinosa* ; Jussieu's plant, of which there are two small specimens, one in flower, the other in seed, corresponds with another larger specimen collected also in Peru (Tarma) by Dombey, which I have described under the name *C. aciculata*."

As pointed out already, Lamarck's figure is taken from a drawing of the Peruvian plant made by Jos. de Jussieu, and has nothing to do with Commerson's plant. Note that Lamarck's figure shows leaves, flowers, and fruit, all of which are present in the Peruvian specimens. Commerson's specimen lacks leaves (*fide* Miers) and evidently fruits also, for Miers makes no mention of them in his description of the specimen.

(4) " Lamarck's figure, though coarsely drawn, is tolerably correct ; but the spines in the specimen [that is, Commerson's] are longer than are there represented, and not at all curved."

The spines are naturally incorrect from Miers' standpoint, since they were not drawn from the Commerson specimen at all. It is curious

that Miers makes no mention of the fact that the anthers in Lamarck's figure are long exserted on very evident filaments, and hence contrast markedly with the subsessile anthers that he himself describes and figures for *C. spinosa* (sens. strict.).

(5) " I have adapted from his [that is, Lamarck's] description and plate the character of the leaves which are now wanting in the two existing specimens, both collected by Commerson in ' Buenos Aires,' or at least in the Argentine Province."

So Mier's own description of *C. spinosa* comes to be a mixture of the leaves of Joseph de Jussieu's Peruvian plant, with other features from Commerson's !

Reiche in his ' Flora de Chile ' pp. 19, 20 (1898) included no fewer than five other species as varieties under " *C. spinosa* Lam," a procedure which is not justified and which suggests that Reiche had not seen any authentic material of the plants concerned. Apparently he was unaware that the original *C. spinosa* of Lamarck was based on a mixture of two distinct species, neither of which came from Chile, and he was evidently not very clear about the Commerson plant to which Miers had restricted the name *C. spinosa*, for all the varieties he refers to this species have exserted anthers, whereas in the Commerson plant the anthers are subsessile.

Finally, in 1916, Dr. N. E. Brown published the results of his investigations into the identity of *C. spinosa*, and these may be given briefly as follows :

First, he agreed with Miers that Lamarck had included two distinct species in the original *C. spinosa*, but he pointed out that Miers' account of the species was faulty inasmuch as the plant figured as tab. 129 of Lamarck's work was the Peruvian plant, and not the Commerson specimen from Buenos Aires as Miers had said.

Secondly, Brown argued that as the plant figured by Lamarck was the Peruvian species, and as there is nothing in the description that does not apply to it, the Peruvian plant should be accepted as the type of *C. spinosa*, and not the one from Buenos Aires.

Thirdly, he pointed out that *C. aciculata* Miers was identical with *C. spinosa* (as Brown defined that species) and hence became a synonym of it ; he also showed that the Commerson specimen to which the name *C. spinosa* had been restricted by Miers, was conspecific with *C. atrox* Miers, and that the latter was the name to be used for it.

The first of these conclusions is quite correct, but the second must be rejected since it takes no account of the existence of the epithet *spinosissima* and of the fact that *C. spinosa* Lam. was a superfluous name and has no standing under the Rules. The legitimate application of the name *C. spinosa* therefore starts with Miers, and *C. spinosa* has to be retained for the specimen to which he restricted it, and consequently Brown was not at liberty to use the epithet *spinosa* for another species. (Brown, by the way, was well aware that Miers had restricted the name *C. spinosa* to Commerson's

specimen, for he says : " Miers in some unaccountable manner has gone out of his way to take as the type of *C. spinosa* the Buenos Aires plant " ; as pointed out, however, Miers' choice was not so " unaccountable " as Brown supposed, but was, on the contrary, quite logical if the origin of the genus is taken into account.) The rejection of Brown's second conclusion necessitates an alteration in his third, since *C. aciculata* must stand as the name for the Peruvian plant ; his statement that *C. spinosa* as defined by Miers is conspecific with *C. atrox* Miers seems, however, to be correct, and his choice of the epithet *atrox* for the combined species would stand, since the two names *C. spinosa* and *C. atrox* were published at the same time.

Now, however, it is necessary to restore the long-neglected epithet *spinosissima*, and this, of course, will involve an alteration in the naming. The position will be evident from the following synopsis of the species with their dates of publication and the specimens included in them :—

C. spinosissima Gmelin (1791), covers *Commerson* (Buenos Aires) and *Jos. de Jussieu* (Peru) since Gmelin cites A. L. de Jussieu, Gen. Plant. where these two specimens are mentioned. No type indicated.

C. spinosa Lam. (1797), cites *Commerson* and *Jos. de Juss.* ; *nomen illegitimum.*

C. horrida Willd. (1798), includes *Commerson* and *Jos. de Juss.* since he cites A. L. de Juss. Gen. Plant. ; *nomen illegitimum.*

C. aciculata Miers (1860), cites *Dombey* (Peru) and *Jos. de Juss.*

C. atrox Miers (1860), cites *Tweedie* (Buenos Aires)

C. spinosa [Lam. emend.] Miers (1860), includes only *Commerson* (Buenos Aires), considered as type of the genus by Miers. = *C. atrox* Miers fide N. E. Brown (1916).

C. spinosa [Lam. emend.] N. E. Br. (1916), cites *Dombey* and *Jos. de Juss.* ; *nomen illegitimum* = *C. aciculata* Miers.

Now we know that the two specimens included in *C. spinosissima* represent different species, and the epithet *spinosissima* must be retained for one of them. From the history of the genus given in this article it is clear that the Commerson specimen agrees best with the original generic description, and, moreover, that there is good reason to believe that the genus was actually founded on this specimen ; clearly, therefore, it will be most convenient to retain the epithet *spinosissima* for the Commerson specimen. *C. atrox* Miers has already been shown to be conspecific with *C. spinosa* Lam. emend. Miers, and since the latter is based on the Commerson specimen concerned, it follows that *C. atrox* is synonymous with *C. spinosissima.* As the latter is the earlier name it replaces the former, and the synonymy is as follows :—

Colletia Comm. ex A. L. de Juss. (1789)
type : *C. spinosissima* Gmelin (quoad specim. Commerson.)

C. spinosissima Gmelin (1791) quoad specim. Commerson.
syn. *C. spinosa* Lam. (1797) emend. Miers (1860)
C. horrida Willd. (1798) emend. Miers (1860, pro syn.)
C. atrox Miers (1860)
lectotype : *Commerson* (Buenos Aires)

C. aciculata Miers (1860)
syn. *C. spinosa* Lam. (1797) emend. N. E. Br. (1916), non Miers (1860)
C. horrida Willd. (1798) pro parte (haud emend. Miers, 1860)

XXXI—TROPICAL AFRICAN PLANTS : XVI.*

J. Hutchinson and J. M. Dalziel.

Loganiaceae

Strychnos Lecomtei *A. Chev. ex Hutch. et J. M. Dalz.* Fl. West Trop. Afr. **2,** 22 (1931) ; affinis *S. spinosae* Lam., sed ramis haud aculeatis, foliis ovato-ellipticis longe acuminatis differt.

Frutex scandens ; ramuli graciles, minute pubescentes. *Folia* ovato-elliptica, late acuminata et mucronata, basi rotundata, 5–8 cm. longa, 3–4 cm. lata, tenuia, glabra ; petioli 3 mm. longi, parce pubescentes ; stipulae subulatae. *Flores* minimi, congeste cymosi ; bracteae subulatae ; pedicelli parce puberuli. *Calycis lobi* e basi ovato subulati, 1·5 mm. longi. *Corolla* alabastro late ovoidea, 3 mm. longa ; lobi triangulares, intra basin dense hirsuti. *Antherae* latere hirsutae. *Ovarium* pilosum.

Ivory Coast : Bingerville and neighbourhood, *Chevalier* 15407 (type†) ; 15402.

Strychnos soubrensis *Hutch. et J. M. Dalz.* op. cit. 22 ; affinis *S. Afzelii* Gilg, sed inflorescentia sessili pauciflora, foliis oblanceolatis costa infra pubescentia differt.

Ramuli cirrhiferi, graciles, parce pubescentes, cirrhis bifurcatis. *Folia* oblanceolata, sensim acuminata, usque ad 8 cm. longa et 3 cm. lata, costa infra parce pilosa, e basi trinervia, nervis conjunctis numerosis e costa angulo latissimo abeuntibus ; petioli 3 mm. longi, pilosi. *Inflorescentia* axillaris, sessilis, pauciflora ; bracteae subulatae, pilosae. *Calycis lobi* rotundati, extra parce puberuli, circiter 1·25 mm. longi. *Corolla* alabastro oblonga, obtusa, tubo 3 mm. longo inferne breviter pubescenti intra pilis reflexis dense induto ; lobi oblongi, 2·5 mm. longi. *Stamina* exserta ; filamenta 1·25 mm. longa ; antherae mucronatae, 1·25 mm. longae. *Ovarium* pilosum ; stylus inferne pubescens, staminibus aequilongus.

Ivory Coast : Sassandra Valley, near Soubré, May, *Chevalier* 17994 (type).

---

* Continued from K.B. 1937, 63.

† The types of Chevalier's species are in the Paris Herbarium.

Strychnos littoralis *A. Chev.* Explor. Bot. Afr. Occid. Franc. 443 (1920), nomen ; ex Hutch. et J. M. Dalz. op. cit. 24 ; species valde distincta, floribus fasciculato-cymulosis, corollae tubis angustis, stylis gracilibus.

Arbor parva usque ad 7 m. alta, vel interdum frutex scandens ; ramuli teretes, glabri, laxe foliati. *Folia* elliptica vel obovato-elliptica, basi cuneata, apice late vel interdum abrupte acuminata, 7–14 cm. longa, usque ad 8 cm. lata, glabra, basi triplinervia vel subquinquenervia, infra laxe reticulata ; petioli 0·5–1 cm. longi. *Cymulae* axillares, subsessiles, densiflorae, circiter 1·5 cm. diametro ; bracteae subulatae ; pedicelli 2 mm. longi. *Calycis lobi* ovato-triangulares, subacuti, 1 mm. longi, margine minutissime puberuli. *Corollae tubus* 6 mm. longus, extra glaber, intra laxe pilosus ; lobi 2 mm. longi, intra inferne pilosi. *Antherae* leviter exsertae, glabrae. *Ovarium* angustum, glabrum ; stylus 8 mm. longus, glaber, stigmate discoideo. *Fructus* oblique ellipsoideus, 2 cm. longus, leviter rostratus.

Ivory Coast : Cavally Basin ; sea coast between Tabou and Bériby, Aug., *Chevalier* 19953 (type). Southern Nigeria : Lagos, Aug., *Dalziel* 1415. British Cameroons : Likomba Plantation, Oct., fl. and fr., *Mildbraed* 10521 ; 10527.

Dalziel describes this as a shrub or small erect tree or sometimes scrambling amongst forest foliage ; Mildbraed states it to be a " kleines Baum, ca, 6 cm. diam., 7 m. hoch ; Blüthen gelblich weiss, duftend, haufig."

Strychnos tricalysioides *Hutch. et M. B. Moss* in Fl. West Trop. Afr. **2,** 24 (1931) ; species aspectu *S. Staudtii* Gilg, sed foliis minoribus longe caudato-acuminatis, corollae lobis angustioribus differt.

Frutex scandens, caule 3 cm. diametro ; ramuli canaliculati, glabri. *Folia* elliptica vel interdum leviter obovato-elliptica, basi breviter cuneata, apice longe caudato-acuminata, acumine obtuso 1 cm. longo, 6–10 cm. longa, 3–4·5 cm. lata, glabra, basi triplinervia ; petioli 0·5–1 cm. longi, glabri. *Cymulae* axillares, brevissime pedunculatae, parvae, pluriflorae ; bracteae late ellipticae, obtusae, 1·5 mm. longae ; pedicelli 3 mm. longi. *Calycis lobi* late orbiculares, 1·25 mm. lati, glabri. *Corolla* alabastro oblonga, 5 mm. longa, lobis anguste oblongis 3·5 mm. longis intra inferne longe villosis. *Antherae* exsertae, glabrae. *Ovarium* glabrum ; stylus staminibus brevior.

British Cameroons : Likomba Plantation, 15–35 km. north east of Victoria, liane, fls. yellowish-white, Oct., *Mildbraed* 10576.

Strychnos venulosa *Hutch. et M. B. Moss*, op. cit. 24 ; species foliis anguste ellipticis vel ovato-ellipticis longe caudato-acuminatis crebre reticulatis, inflorescentiis gracilibus, floribus minutis distincta.

Frutex scandens ; ramuli teretes, glabri. *Folia* anguste elliptica vel ovato-elliptica, longe et anguste caudato-acuminata, basi

rotundata, 7–12 cm. longa, 2–4·5 cm. lata, utrinque prominenter reticulata, basi triplinervia, nervis lateralibus numerosis et multe ramosis ; petioli 7–10 cm. longi, glabri. *Inflorescentiae* axillares, anguste racemoso-cymosae, foliis usque ad dimidio breviores, ubique glabrae ; bracteae ovatae, acutae. *Flores* minuti, subsessiles. *Calycis lobi* ovati, subacuti. *Corolla* brevissima, 2–3 mm. longa. *Stamina* leviter exserta. *Ovarium* globosum, glabrum, stylo aequilongo. *Fructus* globosus, laevis, 1–5 cm. diametro.

Sierra Leone : Falaba, Apr., *Aylmer* 58 (type). Liberia : Peáhtah, fr. Oct., *Bequaert in Linder Coll.* 1073.

Linder 1084, also from Peáhtah and in young fruit, quoted in our Flora as this species is not the same, but is *S. Moloneyi* Baker.

Strychnos cinnabarina *Gilg ex Hutch. et J. M. Dalz.* op. cit. 24 ; species foliis late acuminatis, costa supra tomentella distincta.

Frutex scandens ; ramuli divaricati, breviter pubescentes, vetustiores cirrhis lignosis circinnatis instructi. *Folia* anguste oblongo-lanceolata, basi cuneata, apice late et obtuse acuminata vel interdum emarginata, usque ad 7 cm. longa et 2 cm. lata, e basi distincte 5-nervia, costa supra minute tomentella infra basin versus hirsuta ; petioli verruculosi et breviter pubescentes. *Cymae* brevissimae, puberulae. *Flores* non visi. *Fructus* globosus, fere 1·5 cm. diametro, siccus valde contractus.

Southern Nigeria : Eket, *Talbot*. Cameroons : Bipinde, *Zenker* 3430 (type) ; 3808 ; between Jaunde and Dengdeng, 140 km. N.E. of Jaunde, Feb., *Mildbraed* 8342.

Strychnos Cooperi *Hutch. et M. B. Moss*, op. cit. 24 ; affinis *S. pusilliflorae* S. Moore, foliis ovatis vel ovato-ellipticis late et obtuse acuminatis differt.

Frutex scandens ; ramuli puberuli. *Folia* ovata vel ovato-elliptica, basi rotundata, apice latissime acuminata, 7–9 cm. longa, 3–4·5 cm. lata, sicco intense viridia, glabra, subpinnatinervia, basin versus nervis lateralibus utrinsecus 2 arcuatis ; petioli 0·8 cm. longi, basi abrupte articulati. *Cymae* axillares, pedunculatae, ubique minute puberulae ; bracteae triangulari-subulatae. *Calycis lobi* ovato-triangulares, 0·5 mm. longi. *Corolla* perbrevis ; tubus basi explanato-disciformis, profunde lobatus.

Liberia : Dukwia River, Mar., *Cooper* 300.

Strychnos Johnsonii *Hutch. et M. B. Moss* op. cit. 24 ; affinis *S. nigritanae* Baker, sed floribus minoribus, foliis oblongo-oblanceolatis differt.

Frutex scandens cirrhiferus, cirrhis bifurcatis ; ramuli glabri, cinerei. *Folia* oblongo-oblanceolata, breviter acuminata, basi attenuata, 6–11 cm. longa, 2–3·5 cm. lata, basi triplinervia, nervis cum marginibus parallelis et 3–4 mm. distantibus, inter nervos laxe reticulatis ; petioli 7 mm. longi. *Cymae* axillares, foliis dimidio breviores, parce puberulae ; bracteae ovato-subulatae. *Calycis lobi*

triangulari-ovati. *Corolla* alabastro late oblonga, 3·5 mm. longa, infra medium lobata, lobis oblongo-lanceolatis intra basin versus leviter pubescentibus. *Antherae* exsertae, glabrae. *Ovarium* glabrum; stylus corollae leviter brevior. *Fructus* globoso-ellipsoideus, 1·5–2 cm. diametro.

Sierra Leone: near Buyabuya, Scarcies River, fr. Feb., *Scott Elliot* 4292. Gold Coast: Akropong, shrubby climber with pale yellow flowers, *W. H. Johnson* 802 (type). Togo: Misahöhe, Nov., *Mildbraed* 7336.

Oleaceae

Olea guineënsis *Hutch. et C. A. Smith* in Fl. West Trop. Afr. **2**, 26 (1931). *O. Hochstetteri* A. Chev. Explor. Bot. Afr. Occid. Franç. 399 (1920), non Baker; affinis *O. Hochstetteri* Baker, sed acumine foliorum oblongo-ellipticorum longiore differt.

Arbor parva; ramuli cinerei, glabri. *Folia* oblongo-elliptica, apice triangulari- vel subcaudato-acuminata, basi cuneata, 8–12 cm. longa, 4–5 cm. lata, infra minutissime punctulata; nervi laterales utrinsecus circiter 7, patuli, gracillimi, marginem versus conjuncti; petioli 1·5 cm. longi, leviter verrucosi. *Paniculae* terminales, foliis breviores, glabrae; bracteae parvae, triangulares. *Calyx* cupulatus, lobis deltoideis. *Corolla* alabastro obovoidea, 3·5 mm. longa. *Fructus* anguste ellipsoideus, apiculatus, 1·5 cm. longus.

Ivory Coast: Upper Cavally; Dyla Country, on Mt. Momy, 850–900 m., Apr., *Chevalier* 21358 (type). Cameroons Mt.; above Musake, 1500 m., fr. Mar., *Maitland* 498.

This is the only species of *Olea* known from Upper Guinea and so far recorded from two widely separated localities, both mountains. It is closely related to *O. Hochstetteri* Baker, from Abyssinia and Kenya, with which Chevalier identified it, but which has less acuminate leaves, and the two species are obviously different.

Schrebera Chevalieri *Hutch. et J. M. Dalz.* op. cit. 26; a *S. arborea* A. Chev., foliis oblongo-ellipticis longe acuminatis, petiolis molliter tomentellis differt.

Arbor parva; ramuli parce lenticellati. *Folia* oblongo-elliptica, satis longe acuminata, basi breviter cuneata, 10–18 cm. longa, 6–8 cm. lata, glabra, nervis lateralibus utrinsecus circiter 10; petioli molliter tomentelli, 1–1·5 cm. longi. *Flores* non visi. *Fructus* obovoideus, 5 cm. longus; semina 4 cm. longa ala inclusa.

Senegal: Casamance, Sinedone, fr. Jan., *Chevalier* 3532 (type).

Apocynaceae

Clitandra ivorensis *A. Chev.* Explor. Bot. Afr. Occid. Franç. 401 (1920), partim; Hutch. et J. M. Dalz. op. cit. 34; affinis *C. nitidae* Stapf, sed foliis basi rotundatis, nervis lateralibus leviter prominentibus.

Frutex scandens 5–8 m. altus; ramuli atropurpurei, annotini laxe lenticellati; cirrhi elongati, bifurcati. *Folia* pauca, late oblongo-elliptica, abrupte et breviter acuminata, basi rotundata,

7–8 cm. longa, 3·5–5·5 cm. lata, sicco brunnea, leviter discoloria, nervis lateralibus utrinsecus numerosis e costa sub angulo lato abeuntibus prope marginem conjunctis utrinque prominulis ; petioli 7–8 mm. longi, glabri. *Cymae* subsessiles, terminales et axillares, pauciflorae ; bracteae ovatae, obtusae, 1·25 mm. longae ; pedicelli 4 mm. longi. *Sepala* 5, ovata, 1 mm. longa, breviter ciliata. *Corollae tubus* 1·2 cm. longus, basin versus leviter expansus, superne parce pubescens ; lobi 4 mm. longi, ciliolati. *Antherae* infra medium corollae tubi insertae. *Stylus* calyce duplo longior.

Ivory Coast : Bingerville, Abidjean, Dabou region, *Chevalier* 15183 (type) ; Abidjean, near the railway, *Chevalier* 15616.

Carpodinus macrophylla *A. Chev.* Explor. Bot. Afr. Occid. Franç. 411 (1920), nomen : Hutch. et J. M. Dalz. op. cit. 36 ; " *C. hirsuta* Hua ? " Stapf in Johnston, Liberia, 620 (1906) ; species adhuc imperfecte cognita, affinis *C. oöcarpae* Stapf, sed foliis majoribus costa et nervis lateralibus infra pilosis differt.

Frutex scandens ; rami cirrhosi, juniores dense et longe piloso-hispidi. *Folia* elliptica ad obovata, breviter triangulari-acuminata, basi cordata, 12–20 cm. longa, 6–10 cm. lata, papyracea, supra nitida, infra in costa nervisque plus minusve pilosa ; nervi laterales utrinsecus circiter 8, infra valde prominentes, nervis tertiariis paucis arcuatis prominulis ; petioli 0·5–1·5 cm. longi, piloso-hispidi. *Flores* et fructus non visi.

Liberia : Greenville, *Sim in Herb. Johnston* 35. Ivory Coast : Basin of the Sassandra at Guidéko, May, *Chevalier* 16369 ; 16405 (type). Gold Coast : locality ? *Dudgeon* 108a and b.

This still remains an imperfectly known species. It is easily recognised by its pilose-hispid branchlets, cordate-based leaves with pilose midrib and nerves below.

Carpodinus Baumannii *Hutch. et J. M. Dalz.* op. cit. 36 ; *C. Barteri* Stapf in Dyer Fl. Trop. Afr. **4**, 1, 77, partim ; affinis *C. oxyanthoidei* Wernham, sed foliis sensim acuminatis, corollae lobis tubo longioribus differt.

Frutex scandens ; ramuli annotini cinerei, hornotini leviter adpresse pubescentes. *Folia* anguste oblongo-elliptica, sensim acuminata, basi rotundata, 7–10 cm. longa, 2–4 cm. lata, glabra, nervis lateralibus utrinsecus 4–5 arcuatis marginem versus conjunctis ; petioli 1 cm. longi. *Flores* axillares et ad nodos defoliatos dispositi, pauci, sessiles ; bracteae breviter hirsutae. *Sepala* triangularia, rufo-hirsuta. *Corollae tubus* 1·8 cm. longus, extra glaber, superne ampliatus et antheriferus ; lobi late lineares, 2·5cm. longi, 2 mm. lati, circiter 6-nervi. *Antherae* acutae, 2·5 mm. longae. *Stylus* basin versus parce pubescens.

Togo : Misahöhe, May, *Baumann* 304 (type).

Alstonia congensis *Engl.* var. **glabrata** *Hutch. et J. M. Dalz.* op. cit. 42 ; a typo inflorescentia et calyce leviter puberulo differt.

S. Nigeria : Lagos town, Oct., *Dalziel* 1256.

Holalafia jasminiflora *Hutch. et J. M. Dalz.* op. cit. 43 ; *Alafia jasminiflora* A. Chev. Explor. Bot. Afr. Occid. Franç. 423 (1920), nomen ; *A. mirabilis* A. Chev. op. cit., nomen ; affinis *H. multiflorae* Stapf, sed foliis satis longe acuminatis, floribus cymosis numerosis, pedicellis puberulis differt.

Ramuli mox glabri, teretes, internodiis 4–5 cm. longis, nodis linea transversa puberula circumdatis. *Folia* oblonga, satis longe acuminata, basi rotundata ad subacuta, 7–10 cm. longa et 4 cm. lata, glabra ; nervi laterales utrinsecus circiter 6, fere indistincti, e costa angulo lato arcuati ; petioli circiter 7 mm. longi, basi fere saccati. *Cymae* terminales, circiter 8 cm. diametro, multiflorae, ubique rufo-tomentellae ; bracteae triangulares, fere glabrae ; pedicelli 4 mm. longi. *Sepala* rotundato-elliptica, puberula, 2 mm. longa. *Corollae tubus* 1·2 cm. longus, glaber, lobis lanceolatis aequilongis crassis puberulis. *Antherae* parte exsertae, acutae, 6 mm. longae, basi sagittatae. *Ovarium* rufo-pubescens ; stylus gracilis, 8–10 mm. longus. *Carpella* 15–17 cm. longa, indumento rufo instructa.

Ivory Coast : Bingerville, *Chevalier* 16583 bis ; Bouroukrou, Dec.–Jan., *Chevalier* 16644 ; Mbasso, Lower Comoé, in the forest, Mar., *Chevalier* 17606 (type). Morénou, near Akabilekrou, Dec., *Chevalier* 22507. Gold Coast : near Kumasi, white scented flowers. May, *Vigne* 2011. S. Nigeria : Central Province, *Rosevear* B.R. 10.

Baissea aframensis *Hutch. et J. M. Dalz.* op. cit. 46 ; affinis *B. multiflorae* A. DC., sed foliis haud acuminatis, inflorescentia brevissime pubescente differt.

Frutex scandens ; ramuli crebre foliati, molliter rufo-tomentosi. *Folia* oblonga, basi truncata, apice rotundato-triangularia, 3–5 cm. longa, 1·5–2 cm. lata, infra costa et axillis nervorum laxe tomentosa, nervis lateralibus utrinsecus 5–6 marginem versus sensim evanidis ; petioli 3 mm. longi, rufo-tomentosi. *Cymae* axillares, foliis aequilongae, graciles, ubique breviter pubescentes ; bracteae ovato-lanceolatae, 2–3 mm. longae, puberulae ; pedicelli usque ad 8 mm. longi. *Sepala* ovato-lanceolata, subacuta, 3 mm. longa, extra pubescentia. *Corollae tubus* anguste infundibuliformis, glaber, 5 mm. longus ; lobi lineari-lanceolati, 1 cm. longi. *Antherae* 2 mm. longae, acutae.

Gold Coast : Afram Plains, Wuruboug to Okraji, May, fls. yellow, *Kitson* 1140 (type) ; Aburi Hills, 250 m., June, fls. white, *Patterson* 287 ; Mayena, Akwapim, Mar., fls. white, in dry deciduous forest, *Irvine* 1534 ; Kumasi, 300 m., Apr., *Vigne* 1107.

Baissea concinna *Stapf ex Hutch. et J. M. Dalz.* op. cit. 46 ; affinis *B. Lane-Poolei* Stapf, sed pedicellis longioribus, foliis oblongo-oblanceolatis breviter acuminatis glabris differt.

Frutex scandens ; ramuli annotini cinerei, hornotini minute puberuli. *Folia* oblongo-oblanceolata, breviter et obtuse acuminata, basi breviter acuminata, 6–8 cm. longa, 2·5–3 cm. lata, glabra et

opaca, nervis lateralibus utrinsecus 5–6 arcuatis utrinque prominulis ; petioli 0·8–1 cm. longi, minute puberuli. *Cymae* axillares et terminales, foliis aequilongae vel longiores, divaricato-ramosae, ubique breviter puberulae ; bracteae ovato-oblongae, vix 1 mm. longae ; pedicelli ad 6 mm. longi. *Sepala* rotundato-ovata, puberula, 1 mm. longa. *Corollae tubus* brevissimus, vix 1 mm. longus ; lobi oblongi, 3 mm. longi, extra carinati. *Antherae* 2·5 mm. longae.

LIBERIA : Grand Bassa, *Dinklage* 1630 (type).

ASCLEPIADACEAE

Tacazzea viridis *A. Chev.* Explor. Bot. Afr. Occid. Franç. 429 (1920) nomen ; Hutch. et J. M. Dalz. op. cit. 52 ; affinis *T. apiculatae* Oliv., sed calyce extra pubescente, foliis in costa et nervis pubescentibus differt.

Scandens ; ramuli breviter et parce pubescentes. *Folia* late ovata vel ovato-oblonga, basi aperte cordata, apice breviter acuminata, 6–9 cm. longa, 4–6 cm. lata, costa et nervis utrinque crispato-pubescentia, nervis lateralibus utrinsecus circiter 8, inter nervos graciliter reticulata ; petioli 2·5–3·5 cm. longi, pubescentes. *Cymae* axillares, pauciflorae, foliis aequilongae, ubique breviter pubescentes ; bracteae oblongae, ad 5 mm. longae, pubescentes ; pedicelli graciles, 1 cm. longi. *Calycis lobi* ovati, 2·5 mm. longi, pubescentes. *Corollae lobi* late oblongi, fere 1 cm. longi. *Coronae lobi* lineares, 5 mm. longi.

IVORY COAST : Mankono district ; between Dialakoro and Kénégoué, July, *Chevalier* 21975 (type). Baule-Nord district ; between Marabadiassa and Gottoro, July, *Chevalier* 22025.

Asclepias solstitialis *A. Chev.* Explor. Bot. Afr. Occid. Franç. 434 (1920), nomen ; Hutch. et J. M. Dalz op. cit. 56 ; species foliis linearibus, caulibus et pedicellis glabris, floribus multicorymbosis distincta.

Herba suffrutescens circiter 1 m. alta, glabra. *Folia* opposita, linearia, usque ad 20 cm. longa et 1 cm. lata, viridia vel glaucescentia, costa infra valde conspicua. *Pedunculi* 4–5 cm. longi, leviter recurvati ; pedicelli 3–4 cm. longi ; bracteae linearilanceolatae, 1–1·3 cm. longae. *Sepala* lanceolata, acuminata, 6 mm. longa. *Corollae lobi* obovato-elliptici, fere 1·5 cm. longi. *Coronae lobi* compressi, late cymbiformes, 6·5 mm. longi, 3 mm. lati, lateribus apicem versus in lobulis breviter triangularibus productis. *Folliculi* lanceolati, circiter 9 cm. longi, glabri, lineis latis notati. *Semina* ambitu anguste ovata, 6 mm. longa, minute verruculosa.

FRENCH GUINEA : Soarella, June, fls. rose and green, *Pobéquin* 1007. *Ivory Coast* : Mt. Kamouéniboka, near Marabadiassa, 200 m., July, *Chevalier* 22017 (type) ; Middle Sassandra, savannah plains, May, *Chevalier* 21798 ; Mankono, June, *Chevalier* 21849. GOLD COAST : Yeji, Aug., fls. blue, *Pomeroy* 1343. N. NIGERIA : Zungeru, by Dago stream, July, *Dalziel* 3 ; Aguji, near Ilorin, *Thornton*.

Schizoglossum Glanvillei *Hutch. et. J. M. Dalz.* op. cit. 58; affine *S. angustissimo* K. Schum., sed caulibus ubique pubescentibus, foliis angustioribus differt.

Herba e rhizomate lignoso usque ad 0·75 m. alta; caules stricti, simplices, virides, lineis pilorum instructi. *Folia* sessilia, linearia vel late linearia, subacuta, basi angustata, 6–7 cm. longa, 5–6 mm. lata, costa media supra puberula excepta glabra. *Flores* virides, minimi, in pedunculis pubescentibus axillaribus gracillimis fasciculati; pedicelli filiformes, 5 mm. longi, puberuli. *Sepala* lanceolata, 1 mm. longa, membranacea, glabra. *Corollae segmenta* oblonga, obtusa, 3 mm. longa. *Coronae lobi* erecti, 1 mm. longi, breviter trilobati, lobis lateralibus triangularibus, terminale ovato. *Folliculi* leviter inaequales, 4·5 cm. longi, angusti, laeves. *Semina* oblonga, 5 mm. longa, pilis sericeis longis coronata.

Sierra Leone: Kulufaga, in Sambaia Chiefdom, up to 2 ft. high, Apr., *Glanville* 192 (type); Rowalla, fr. July, *N. W. Thomas* 1075; 1096.

Tylophora Deightonii *Hutch. et J. M. Dalz.* op. cit. 59; affinis *T. oculatae* N.E. Br., sed foliis basi haud cordatis differt.

Scandens, floribus pallide flavis; caulis glaber. *Folia* elliptica, basi late obtusa, apice acutissima, 3·5–5 cm. longa, 1·5–2·5 cm. lata, glabra, nervis lateralibus utrinsecus 4–5 tenuibus utrinque prominulis; petioli 5 mm. longi. *Cymae* pauciflorae, foliis aequales; bracteae triangulares, minimae, minute ciliolatae; pedicelli 6 mm. longi. *Calycis lobi* ovato-triangulares, acuti, 2 mm. longi, minutissime ciliolati. *Corolla* alabastro depresso-globosa, 5 mm. diametro. *Folliculi* immaturi ambitu lanceolati, rostrati, 2·5 cm. longi, glabri.

Sierra Leone: Hill Station, Oct., *Deighton* 219 (type).

Ceropegia Deightonii *Hutch. et J. M. Dalz.* op. cit. 62; affinis *C. pedunculatae* Turrill, sed foliis sessilibus, corollae lobis anguste linearibus longioribus differt.

Tuber subglobosum, circiter 1 cm. diametro; caulis simplex, gracillimus, leviter angulosus et interdum parce pubescens. *Folia* linearia, acuta, 3–4 cm. longa, 3–4 mm. lata, margine minute scabrido-ciliolata; petioli nulli. *Calycis lobi* subulato-lanceolati, 3 mm. longi, submembranacei. *Corollae tubus* 1·5 cm. longus, basi ventricosus, glaber; lobi liberi, lineares, 1·5–2 cm. longi, minute pubescentes et intra pilis purpureis deciduis ornati. *Coronae lobi* exteriores hyalini, lobis linearibus, interiores carnosi, ovoidei, longe acuminati. *Folliculi* lineares, anguste rostrati, stipitati, circiter 9 cm. longi, glabri. *Semina* lanceolata, 7 mm. longa, apice pilis sericeis coronata.

Sierra Leone: Foni flats, Waterloo, Aug., *Deighton* 2057 (type); Binkolo, frequent on granite outcrops, Aug., *Deighton* 1289; Rohilla, fr. June, *Deighton* 2743A; Russel, May, *Deighton* 2743.

The flowers are deep purple, and the violet purple hairs on the inside of the corolla-lobes seem to fall off quite readily. Deighton

states that plants of this species are found in the crevices of laterite rock and are very difficult to remove. It is common in all grass fields on laterite areas in the Colony except between Hamilton and Lumley. It occurs also by the roadside between Waterloo and Campbell Town, showing sometimes a slight tendency to twine.

Ceropegia Hepburnii *Hutch. et J. M. Dalz.* op. cit. 62; affinis *C. Dalzielii* N.E. Br., sed corollae tubo extra maculato apicem versus pubescente differt.

Tuber non visum; caulis erectus, apicem versus leviter pubescens. *Folia* non visa. *Flos* unicus tantum visus, pedicellatus, pedicellis parce pubescentibus; bracteae subulatae, pubescentes. *Calycis lobi* lanceolati, acuti, 3·5 mm. longi, medio parce puberuli. *Corollae tubus* 3·5 cm. longus, subcylindricus, apicem versus expansus et pubescens, et extra maculatus; lobi e basi triangulari-ovato lineares, demum liberi, 4 cm. longi, parce ciliati. *Folliculi* breviter stipitati, 20 cm. longi, glabri.

N. NIGERIA: Randa, 650 m., rocky hills, May, *Hepburn* 57 (type).

Mr. Hepburn describes this as being tuberous, the flowers white with light purple spots on the corolla-tube, the lobes dark purple on the inner surface.

Brachystelma atacorensis *A. Chev.* Explor. Bot. Afr. Occid. Franç. 439 (1920), nomen; Hutch. et J. M. Dalz. op. cit. 65; affinis *B. Bingeri* A. Chev., sed floribus breviter pedicellatis, corolla extra glabra differt.

Herba perennis e tubero orta, e basi ramosa, 15–20 cm. alta; caules molliter pubescentes. *Folia* late oblanceolata, subacuta, ad basin angustata, 4–6 cm. longa, circiter 2 cm. lata, utrinque breviter pubescentia. *Flores* fasciculati, breviter pedicellati. *Calycis lobi* anguste ovati, acuti, leviter pubescentes. *Corolla* circiter 7 mm. longa, extra glabra.

DAHOMEY: Atacora Mts.; Kouandé, 400–500 m., June, *Chevalier* 24013 (type).

XXXII ADDITIONS TO THE FLORA OF CYPRUS: III.*

A. K. JACKSON.

Sisymbrium polyceratium *L.* Sp. Pl. 658 (1753).

Kato-yialia, 11.6.34, 150 ft., on roadsides, *Syngrassides* 853. South and Western Europe, Mediteranean, Asia Minor, Syria.

Ononis Columnae *All.* var. **orientalis** *Širjaev*, Beih. Bot. Cent. **49**, 2, 545 (1932).

In m. Pentedactylos, 26.5.1880, *Sintenis et Rigo* 404.

This specimen is quoted by Širjaev (l.c. 546) who also records the variety from Bulgaria, Greece, Asia Minor and Syria.

* Continued from K.B. 1936, 16.

Ononis mitissima *L.* Sp. Pl. 717 (1753).

In mont. supra Melanissiko, 26.5.1880, *Sintenis et Rigo* 646; Voroklini marshes (Larnaca district), in marshes, 30.4.36, *Syngrassides* 1006.

Širjaev (l.c. 641) records the plant from Cyprus and quotes the Sintenis et Rigo specimen. The species is common in the Mediterranean region.

Trifolium pilulare *Boiss.* Diagn. Ser. **1,** 2, 29 (1843).

Koutrapha station, 13.4.36, 650 ft., on borders of fields, on rocky terraces, *Syngrassides* 1015.

Occurs in Asia Minor, Syria and Palestine.

Vicia lunata (*Boiss. et Bal.*) *Boiss. et Bal.* in Boiss. Fl. Or. **2,** 594 (1872). *Ervum lunatum* Boiss. et Bal. in Boiss. Diagn. Ser. **2,** 5, 93 (1856).

Hilly region of Kalapanayiotes, April 1917, 4000 ft., comm. *W. Bevan*; Makhaeras, April 1930, *Druce*; Platres, 17.3.36, 3000 ft., on rocky places, *Syngrassides* 949.

The specimens collected by Bevan and Druce were originally named *Vicia cypria* Kotschy. In naming the plant collected by Syngrassides, however, it was found that the Druce specimens had the remarkable semi-lunar pods of *V. lunata*. Further observation showed that these specimens differed from *V. cypria* in several other respects. The flowers are smaller and the standard of the corolla is almost entirely blue and has conspicuous veins; in *V. cypria* the standard has a blue blotch at the apex and the venation is not conspicuous. In *V. lunata* the style is reflexed over the dorsal edge of the young pod while in *V. cypria* the style curves down ventrally. The former species has hitherto only been found in Asia Minor, near Smyrna and at Takhtali-dagh. In Cyprus it appears at present to be confined to the Troodos range. The endemic *V. cypria* is found in the northern range at St. Hilarion and Pentadactylos and also on the east coast at Cap Greco.

Apium graveolens *L.* Sp. Pl. 264 (1753).

Myrtou, 1.4.36, 500 ft., wild in marshy fields near stagnant waters, etc. *Syngrassides* 1204.

Common in Europe and the Orient.

Ammi Visnaga (*L.*) *Lam.* Fl. Fr. **3,** 462 (1778); Wolf in Engl. Pflanzenr. **90,** 116 (1927); *Daucus Visnaga* L. Sp. Pl. ed. **2,** 348 (1762).

In agris pr. Larnaka, Aug. 1880, *Sintenis et Rigo* 900; Livadhia-Larnaca distr., 6.6.35, 30 ft., in marshes, *Syngrassides* 836; Between Polis and Chrysochou, 12.6.34, 100 ft., on marshy fields, common, *Syngrassides* 967.

The species is recorded from Cyprus in the account of the Umbelliferae by Wolf in Engler's Pflanzenreich.

Common in the Mediterranean region.

Pimpinella cretica *Poir.* Encyc. Suppl. **1,** 684 (1810).

Cap St. André, 24.4.1880, *Sintenis et Rigo* 337.

Recorded from Cyprus by Wolf (l.c. 235).

Occurs in Greece, Crete, Asia Minor, Syria, Palestine and Arabia.

Rubia Laurae (*Holmb.*) *Airy-Shaw,* comb. nov.

Galium Laurae Holmb. Stud. Veg. Cypr. (Berg. Mus. Skr. n. ser. I. no. 2) 171, fig. 56 ; 273 (1914).

Mari, east of Limassol, *Holmboe* 639 (typus ; non vidi) : " dry hill-sides, not rare in the southern part of the island."

In montibus prope Kythraea, Majo 1880, *Sintenis & Rigo* 526 ; in monte Pentedactylos, 8 Junio 1880, *Sintenis & Rigo* 526 ; St. Hilarion, above 150 m., on rocky ground, 11 May 1934, *Syngrassides* 671.

Holmboe remarks of this plant : " A very distinct species, which does not seem to be closely related to any other hitherto described." He apparently overlooked the fact that the flowers were pentamerous, a character which immediately excludes it from the genus *Galium.* In *Rubia,* § *Tinctoriae* K. Schum., to which this species must certainly be referred, the affinity is apparently with the small-flowered group with shortly apiculate petals, including *R. tinctorum* L. (Spain to Caucasus) and *R. fruticosa* Jacq. (Canaries). *R. tinctorum* is very distinct in its shortly tubular corolla and elongate anthers. *R. fruticosa* is, as its name implies, a shrubby species. From both these species *R. Laurae* differs further in its quite sessile, round-based leaves and purple flowers.

Both the collections of Sintenis & Rigo cited above were distributed as "*Rubia Olivieri* var. *stenophylla* Fl. Gr." Holmboe evidently never saw these specimens, as he records "*R. Olivieri* Rich. subsp. *R. Doniettii* Griseb." only on the authority of Post. Although Holmboe states that *R. Laurae* is " not rare in the southern part " of Cyprus, he collected it only once, and no other examples are known from the south. The specimens of Sintenis & Rigo and of Syngrassides are from a small area on the north coast. Evidently the distribution of this interesting endemic is far from fully worked out.—H.K.A.S.

Crucianella aegyptiaca *L.* Mant. **1,** 38 (1767). *C. herbacea* Forssk. Fl. Aegypt. Arab. 30 (1775).

Perivolio (Kiti) towards Pháros, 1.5.36, 100 ft., on marshy fields, *Syngrassides* 1217.

This species was previously only known to occur in Egypt and Palestine.

Chrysanthemum Parthenium (*L.*) *Bernh.* Syst. Verz. Erf. 145 (1800). *Matricaria Parthenium* L. Sp. Pl. 890 (1753).

Platres, Troodos, 10.9.34, in vegetable gardens, in forests, *Syngrassides* 521.

Common in Europe and the Orient.

Sonchus asper *Garsault*, Fig. Pl. Anim. Med. **4**, 332, t. 565 (1767); Hill, Herb. Brit. **1**, 47 (1769).

Dithomo marshes, 9.3.36, 500 ft., on marshy places, *Syngrassides* 1032. This species is recorded by Druce (B.E.C. Rep. **9**, 470 : 1931) from Nicosia.

A common weed with a cosmopolitan distribution.

Scorzonera laciniata *L.* Sp. Pl. 791 (1753).

By the bridge before Pyrói, 17.2.36, 200 ft., in marshes, Syngrassides 1047; Machinoditissa, 20.3.36, 300 ft., on borders of fields, *Syngrassides* 1108.

Mediterranean region.

Heliotropium supinum *L.* Sp. Pl. 130 (1753).

Pomos, 12.6.34, on arable land, *Syngrassides* 972; Ayios Andronikus, 14.8.34, in fields, *Syngrassides* 539.

Mediterranean region generally.

Convolvulus humilis *Jacq.* Coll. **4**, 209, t. 22 (1790). *C. undulatus* Cav. Ic. 3, 39, t. 277, f. 1 (1795). *C. evolvuloides* Desf. Fl. Atlant. **1**, 176, t. 49 (1798).

Ad varium margines pr. Hagios Georgios, 1.6.1880, *Sintenis et Rigo* 57; Dithomo, 9.3.36, 600 ft., on rocky arable lands, flrs. blue, *Syngrassides* 1195.

Holmboe (Stud. Veg. Cypr. 145 : 1914) has a note on this species in which he says—"*C. undulatus* . . . has been indicated for the island under the name *C. evolvuloides* Desf. by Sibthorp, Prodr. **1**, 134 (1806). But as this species has not been collected in the countries of the Levant by other botanists, the statement needs to be verified."

It can now be confirmed that this species does occur in Cyprus. Not only has it recently been collected by Syngrassides but there is also in the Kew Herbarium the Sintenis et Rigo specimen which was not seen by Holmboe.

The species is also found in Spain, Italy, Sicily, Palestine and North Africa.

Linaria longipes *Boiss. et Heldr.* in Boiss, Diagn. Ser. **1**, 12, 40 (1853).

Ad maris litus pr. Larnaca, 9.3.1880, *Sintenis et Rigo*, 782; Shingle near Larnaca, April 1930, *Druce*.

This species has apparently been confused with *L. Cymbalaria* (L.) Mill. which has not been found in the island since Sibthorp and Smith recorded it in Prodr. Fl. Graec. **1**, 430 (1806). The specimen collected by Sintenis and Rigo cited above was wrongly identified by them as *L. Cymbalaria*, and this bears out the views of Holmboe (Stud. Veg. Cypr. 145 : 1914) and Druce (B.E.C. Rep. 9, 470 : 1931) that the Sibthorp and Sintenis records of *L. Cymbalaria* are probably incorrect.

L. longipes is found in the islands of Chios, Rhodes, Salamis, and Crete, and also at Adalia in Asia Minor.

Atriplex patula *L.* Sp. Pl. 1053 (1753).

Platres, 10.6.34, on borders of fields, *Syngrassides* 522.

Common in Europe and the Orient.

Polygonum lapathifolium *L.* Sp. Pl. 360 (1753).

Yermessogia fields, 11.7.35, 60 ft., on borders of fields in vegetable gardens, *Syngrassides* 754; Syrianokhori 3.6.36, 50 ft., in hedges on borders of water channels, *Syngrassides* 977.

Europe, Asia, America.

Muscari pulchellum *Heldr. et Sart.* in Boiss. Diagn. Ser. **2,** 4, 109 (1859).

In elatior. pr. Larnaca, 21.2.1880, *Sintenis et Rigo* 971; Ad monasterium Stavrovouni, 1.3.1880, *Sintenis et Rigo* 141; on the Bogaryi, Kyrenia distr., 28.1.34, 1500 ft., on slopes of mountains, rare, *Syngrassides* 969.

Mediterranean region.

Potamogeton natans *L.* Sp. Pl. 126 (1753).

Chrysochou, 12.6.34, 300 ft., in slow-running waters, *Syngrassides* 842.

This is apparently the first record of the genus *Potamogeton* from Cyprus. The species occurs in all the neighbouring countries.

Cyperus fuscus *L.* Sp. Pl. 46 (1753). Kükenthal in Engl. Pflanzenr. **101,** 235 (1936).

Ayios Andronikos (Karpass), 20.6.34, in wet places, on borders of streams, *Syngrassides* 529. Kyrenia Bogaryi, near the date Palm, 10.6.35, 900 ft., growing on borders of running water, *Syngrassides* 955.

Kükenthal (l.c.) records this species from Cyprus, and it is fairly common in Europe and the Orient.

Echinochloa crus-galli (*L.*) *Beauv.* Agrost. 53 (1812) var. **aristata** Rchb. Ic. Fl. Germ. **1,** t. 29, f. 1412 (1834). *Panicum crus-galli* L. Sp. Fl. 56 (1753).

Platani above Kakopetria, 8.7.35, 3000 ft., in ditches with running water, *Syngrassides* 748; Syrianokhori, 13.8.35, 50 ft., in marshes, *Syngrassides* 747.

This variety is generally distributed in the Mediterranean region and Eastern Asia.

Crypsis Factorovskyi *Eig* in Zionist Org. Inst. Agric. Nat. Hist. Bull. **6,** 58 (1927).

Cyprus, 24.9.1860, *Hooker and Hanbury*; Machinoditissa, 8.9.35, 150 ft., in dry water ditches, *Syngrassides* 793.

This species, which was originally described from Palestine, also occurs in Asia Minor and Syria.

Alopecurus myosuroides *Huds.* Fl. Angl. 23 (1762). *A. agrestis* L. Sp. Pl. ed. **2,** 89 (1762).

Platres, 17.3.36, 3000 ft., on borders of fields in thickets, *Syngrassides* 946.

Europe and the Orient.

Calamagrostis epigeios (*L.*) *Roth*, Tent. Fl. Germ. **1,** 34 (1788). *Arundo epigeios* L. Sp. Pl. 81 (1753).

Cyprus, 1929, *C. B. Ussher* 36 ; Prodromo, nr. Trikkoulhia, 10.7.35, 5000 ft., in gardens, in rich soils, *Syngrassides* 800.

Europe, the Orient and Northern Asia.

Gastridium ventricosum (*Gouan*) *Schinz et Thellung* in Vierteljahrsschr. Nat. Ges. Zurich **58,** 39 (1913). *Agrostis ventricosa* Gouan, Hort. Monspel. 39, t. 1, f. 2 (1762).

In agris montium supra Kythaea, 24.5.1880, *Sintenis et Rigo* 364. Peristerona, 3.6.36, 200 ft., in running water and on borders of water channels, *Syngrassides* 984. Platania station (Kakopetria), 29.6.36, 3700 ft., on borders of forest roads, *Syngrassides* 1090.

Cosmopolitan.

Aegilops bicornis (*Forssk.*) *Jaub. et Spach.* Illustr. Pl. Pr. **4,** 10 (1850–53). *Triticum bicorne* Forssk. Fl. Aegypt. Arab. 26 (1775).

Ayios Irene (Myrtou), 30.3.36, on sandy soils, *Syngrassides* 1206.

Druce also collected this species at Salamis (B.E.C. Rep. 9, 471 : 1931). It was hitherto only known to occur in Egypt.

Hordeum spontaneum *C. Koch* in Linnaea, **21,** 430 (1848). *H. ithaburense* Boiss. Diagn. Ser. **1, 13,** 70 (1853).

Athalassa-Oronas, 27.3.36, 300 ft., on the hill slopes near the top, *Syngrassides* 1173.

Asia Minor, Syria, Palestine.

Notholaena vellea (*Ait.*) *Desv.* Journ. de Bot. appl. **1,** 92 (1813). *Acrostichum velleum* Ait. Hort. Kew, **3, 457** (1789).

Ad rupes m. Pentedactylos, Majo 1880, *Sintenis et Rigo* 100. Skouriotissa, 6.5.27, 1000 ft.. *Rev. Alfred Huddle* 119. Dikomo (Paschali chiflik), 20. 5. 36, 1000 ft., on huge rocks, *Syngrassides* 990.

Generally distributed in the Mediterranean region.

XXXIII—NOTES ON FERNS AND FERN ALLIES: I.

MISCELLANEOUS NOTES. F. BALLARD.

Trichomanes clarenceanum *F. Ballard*, nom. nov. *T. dilatatum* (v. d. B.) Kuhn, Fil. Afr. 33 (1868) non Forst. *Didymoglossum dilatatum* v. d. Bosch. in Ned. kr. Arch. **5,** 144 (1863).

Didymoglossum dilatatum was based on a specimen from Fernando Po and was later reduced by C. Christensen in his Index Filicum to *Trichomanes bipunctatum* Poir. An examination of the type, however, in the Kew Herbarium makes it clear that v. d. Bosch's species is quite distinct from *T. bipunctatum*, though it belongs to the same group. The most striking difference between the two lies in the sorus. In *T. bipunctatum* the involucre is an elongate, tubular, non-flaring structure with conspicuous, triangular, acute or subacute lips. The involucre in *Didymoglossum dilatatum* is shorter, more funnel-shaped and with a dilated mouth ; the lips, if they can be so described, are very short and obtusely rounded.

The last named also is a smaller, less-dissected species than *T. bipunctatum* with stripes not exceeding 7 mm. long. There is also a very much interrupted and somewhat irregular spurious vein running round the margin, whereas the spurious vein in *T. bipunctatum* is in most cases continuous.

The name *Trichomanes dilatatum* is already occupied by Forster for the plant now known as *Hymenophyllum dilatatum* (Forst.) Sw. and a new name is therefore proposed.

Trichomanes guineense *Afz.* ex *Sw.* in Schrad, Journ. Bot. 1800, ii. 96 (1801). *T. Hartii* Bak. in Gard. Chron. n.s. **18**, 680 (1882). *T. latisectum* Christ. in Journ. de Bot. **22**, 20 (1909). Copeland has described *T. batrachoglossum* in Philip. Journ. Sci. **51**, 244, t.50, 51 (1933) from Liberia. Two Liberian specimens in the Kew Herbarium, Cooper 38 and Linder 1291, match Copeland's photograph and figures exactly and these specimens are certainly referable to *T. guineense* Afz.

T. liberiense *Copel.* in Philip. Journ. Sci. **51,** 160, t.9 (1933).

Specimens of this tiny fern originally described from Liberia have appeared on Kew sheets of specimens received under other names. Zenker 1994 collected as far east as Bipinde in French Cameroons and distributed as *T. muscoides* Sw. proves to be this species. Also, the Kew sheet of Zenker 995 from the same locality and bearing the name *T. pyxidiferum* L. consists of *T. liberiense* Copel. and *T. melanotrichum* Schlechtend. in about equal proportions. No doubt *T. liberiense* will be found in other localities lying between Liberia and the Cameroons. Its extremely small size (the fronds rarely exceed 5 mm. in length) render it somewhat inconspicuous and liable to escape the eye of the average collector.

T. Motleyii v. d. Bosch, cited by R. Bonaparte in Notes Pteridol. **1,** 47 as occurring in Loango is probably this species. Engler also mentions *T. Motleyi* from the Cameroons in Die Pflanzen. Afrikas, and here again it is probable that the plant referred to is *T. liberiense.*

Dryopteris Makinoi *Koidz.* in Acta Phytotax. **1,** 26 (1932). *D. obtusissima* Mak. in Journ. Jap. Bot. **2,** 47 (1918).

Dryopteris obtusissima Mak., under which *D. Makinoi* is sunk in C. Chr., Ind. Fil. Suppl. 3, is illegitimate by reason of *D. obtusissima* (Mett.) Christ in Journ. de Bot. **21,** 231 (1908).

Dryopteris Parksii *Ballard,* nom. nov. *D. microsora* Copel. in Bern. P. Bish. Mus. Bull. 59, 12 (1929) non O. Ktze. Rev. Gen. Pl. **2,** 813 (1891).

Dryopteris guadalupensis (*Fée*) *O. Ktze.* Rev. Gen. Pl. **2,** 812 (1891) non (Wikstr). C. Chr. in Biolog. Arb. tilegn. Eug. Warming 84 (1911). *D. nephrodioides* (Kl.) Hieron. in Hedwigia **46,** 327 (1907) non O. Ktze. Rev. Gen. Pl. **2,** 811 (1891).

This fern has been known generally as *Dryopteris nephrodioides* (Kl.) Hieron., an illegitimate name, since it is a later homonym for a plant described by Kuntze.

Pellaea calomelanos (*Sw.*) *Link* Fil. Sp. hort. Berol. 61 (1841)· *Pteris calomelanos* Sw. in Schrad. Journ. Bot. 1800, ii. 70 (1801); *P. hastata* Thbg. Prodr. Pl. Cap. 172 (1800) quoad specim. non (L.) Thbg. In 1800 Thunberg (Prodr. 172) identified a plant with *Adiantum hastatum* L.f., Suppl. Plant. Syst. Veg. 447 (1781) and made the combination *Pteris hastata* (L.f.) Thbg. Although Thunberg had misidentified his plant, the combination made by him, in accordance with the Rules of Nomenclature (Ed. 3), stands, while the plant itself remains nameless. Swartz in 1801 (Schrad. Journ. Bot. 1800, ii. 70) again made the combination *Pteris hastata*, basing the name as before on the plant described by the younger Linnaeus. This was, of course, unnecessary, as the combination had already been made by Thunberg. In the same publication, however, Swartz makes the combination *Pteris calomleanos* for the specimen seen by Thunberg and misidentified by him with *Adiantum hastatum* L. f. This is the first legitimate name for Thunberg's plant. Prantl's name, *P. hastata* (Thbg.) is superfluous.

Pteris pteridioides (*Hook.*) *Ballard*, comb. nov. *Hypolepis pteridioides* Hook., Sec. Cent. t.59 (1861). *Pteris brevisora* Bak. Syn. Fil. 162 (1867).

Baker's name for this Tropical African fern was accepted by C. Christensen in his Index Filicum, as he apparently regarded Hooker's early epithet as a later homonym of the American *Hypolepis pteroides* Mett.

Pteris aspericaulis *Wall. ex Agardh*, Recens. Gen. Pter. 22 (1839). This name first appeared in Wallich's Catalogue (1828) but remained a " nomen nudum " until 1839, when Agardh supplied a description in his revision. The plant introduced to cultivation in 1861 as *P. rubro-nervia* by Linden is apparently identical with *P. aspericaulis*.

Pteris Mannii Baker Syn. Fil. 168 (1867). This species is an undoubted *Lonchitis*, and comparison with a large number of specimens has shown it to be based on young, simply-pinnate fronds of **Lonchitis Currori** (*Hk.*) *Kuhn* in Bot. v. Ost.–Afr. 10 (v. d. Decken's Reisen in Ost.–Afr.) (1879).

Polypodium glaucophyllum *Kze.* var. **Irvingii** *Ballard* var. nov. ; a typo rhizomate tenuiore, foliorum laminis angustioribus haud glaucis costae mediae utrinque areolarum seriibus tribus praeditis differt. *P. Irvingii* Kuhn, Fil. Afr. 147 (1868) ; *P. glaucophyllum* Kze. var. β Hook. Sp. Fil. **5,** 18 (1864).

It is impossible to maintain Dr. E. G. Irving's plant from Southern Nigeria (Abeokuta) as specifically distinct from the American *P. glaucophyllum* Kze. It is doubtful indeed whether the African plant would have invited attention at all if it had borne an

American label. As it is, it stands as the only example of the subgenus *Goniophlebium* to be found in Tropical Africa and it is strange that no collector since Irving's day (he died in 1855) has rediscovered the plant.

The African material is smaller than the average of the American, with a slightly thinner rhizome and narrower non-glaucous blades. There are three series of aeroles each side of the costa, whereas in the American plant there are usually at least five such series. *P. caudiceps* (Moore) Nichols. (*Goniophlebium caudiceps* Moore), based on a cultivated specimen and said to have come originally from Formosa, is apparently closely related to the African plant. C. Christensen is probably right (in litt.) in supposing the locality " Formosa " to be incorrect, though its actual origin is probably American rather than Tropical African.

Polypodium caudiceps (*Moore*) *Nichols.* Dict. Gard. **4,** 592 (1888).

P. fossum (*Moore*) *Nichols.* l.c.

P. xiphias (*Moore*) *Nichols.* l.c.

These combinations are attributed to Baker (1891) in C. Chr. Ind. Fil.

Drynaria rigidula (*Sw.*) *Bedd.* var. **Vidgenii** (*F. M. Bail.*) *Ballard,* comb. nov. *Polypodium rigidulum* Sw. var. *Vidgeni* F. M. Bail. in Syn. Queens. Flora, 718 (1883). *Polypodium Vidgeni* Hort.

This plant, which was exhibited in London in 1912 by Messrs. May, is figured in Bailey's " Ferns of Queensland," t.166 (1892). It differs from the type in the pinnae, which have laciniate margins.

Drynaria rigidula (*Sw.*) *Bedd.* var. **Whitei** (*F. M. Bail.*) *Ballard,* comb. nov. *Polypodium rididulum* Sw. var. *Whitei* F. M. Bail. in Queensl. Agric. Journ. 27, 306 (1911).

This variety, collected originally on the Glasshouse Mountains in Queensland, is similar to the last named but possesses wider and more deeply cut pinnae.

Pyrrhosia africana (*Kze.*) *Ballard,* comb. nov. *Niphobolus africana* Kze. in Linnaea **10,** 501 (1839). *Cyclophorus africanus* (Kze.) C. Chr. Ind. Fil. 197 (1905).

It is unfortunate that *Cyclophorus* Desv. (1811) is antedated by *Pyrrhosia* Mirbel (1803) as it involves the making of a large number of new combinations for plants which have borne their present names in many cases for long periods of time. R. C. Ching has already published (Bull. Chin. Bot. Soc. **1** [1935]), fifty new combinations under *Pyrrhosia.*

Platycerium grande (*Fée*) *Pr.* Epim. Bot. 154 (1852). This name has been attributed in all fern literature to (A. Cunn.) J. Sm. The fern was originally named *Acrostichum grande* by its discoverer, A. Cunningham, although the name was never validated by a

published description. A mention of it is made in Hook. Bot. Misc. **i,** 240 (1830) but again without description. J. Smith, in 1841, (Hook. Journ. Bot. **3,** 402) transferred the plant to *Platycerium*, but this name is also a *nomen nudum*.

In 1845, however, Fée (2me. Mém. 103) published the combination *Neuroplatyceros grandis*, together with an adequate description. This constituted the first valid publication of the species.

Elaphoglossum alpinum *Ballard* nom. nov. *Acrostichum tenerum* Fée ex Kuhn in Linnaea **36,** 52 (1869). *E. tenerum* (Fée) Hieron. in Engl. Bot. Jahrb. **34,** 557 (1904) non H. Chr. Mono. Elaph. 62 (1899).

Acrostichum tenerum Bak., Journ. Bot. **16,** 302 (1878) is an illegitimate name by reason of the earlier homonym of Fée. Christ's transference of Baker's species to *Elaphoglossum*, however, produced a legitimate name (Art. 69), *E. tenerum* H. Chr., which should be used instead of *E. Balansae* C. Chr. Ind. Fil. 303 (1905), which is superfluous. *E. tenerum* (Fée) Hieron., being a later homonym, is illegitimate and a new name is necessary.

XXXIV—THE CORRECT NAME OF THE YELLOW HYBRID ASTER. M. L. Green.

Several enquiries have been received at Kew as to the correct name for the well-known garden hybrid between *Aster ptarmicoides* (Nees) Torr. & Gray and an unknown species of *Solidago*.

From time to time articles have appeared dealing with this plant. In the Gardeners' Chronicle, 1931, **89,** p. 67, a short note was written by " Kent " under the name *Solidago missouriensis*. " Kent " states that the plant has long been known in cultivation under the title of " Aster hybridus luteus," and he proceeds to give a horticultural description, not a technical description, under the name *Solidago missouriensis*. " Aster hybridus luteus " can be regarded only as a phrase name meaning a yellow hybrid aster.

In reply to this note Mr. D. J. Ruys in Gard. Chron. 1931, **89,** p. 117, pointed out that the plant was not *Solidago missouriensis* Nutt., and suggested that it would be better to revert to the old name " Aster hybridus luteus."

Later on in the same year, in Gard. Chron., 1931, **89,** p. 190, Mr. G. Arends wrote an account of the hybrid origin of this plant, and again called it " Aster hybridus luteus." About five months later, Mr. A. D. Cotton and Mr. E. Milne-Redhead, after an examination of the plant, also came to the conclusion that it was not the true *Solidago missouriensis*, nor could it be included in the genus *Aster*—as that genus is generally defined to-day. Mr. Cotton, in a note to the Gardeners' Chronicle, 1931, **90,** p. 147, stated that the plant was probably a bigeneric hybrid ; here also the plant was referred to by its phrase name " Aster hybridus luteus."

Some years later in Gard. Chron. 1937, **91,** p. 6, Mr. T. H. Everett, of New York, tried to clear up the confusion that existed

among horticulturists concerning the correct name of the hybrid in question. He gave a clear account of the history, and of the various trade names under which the plant had been known. He again recognized the bigeneric character of the hybrid, and gave it a technical name, *Asterago lutea*, accompanied by a description, thereby validating the specific epithet according to the International Rules of Botanical Nomenclature. Mr. Everett illustrated his article by three photographs: (1) *Asterago lutea*, (2) *Aster ptarmicoides*, and (3) *Solidago missouriensis*.

Thus for the first time as far as can be ascertained a valid name was given to the hybrid.

This account by Mr. Everett, however, led to a reply by Mr. Arne Thorsrud in Gard. Chron. 1937, **91,** p. 83, pointing out that another name, namely, *Solidaster hybridus* had already been given to the plant by Mr. H. R. Wehrhahn in C. Bonstedt's "Pareys Blumengärtnerei," which was printed in Berlin in 1932. He further remarks that in Norway where the hybrid is much esteemed it has been listed under this name for several years.

As Bonstedt's work is not in the Kew library, the help of Professor Harms of Berlin was solicited, and he very kindly informs us that in the work referred to, Wehrhahn, who is responsible for the Compositae, stated that a hybrid of *Aster ptarmicoides* with an unknown species of *Solidago* is in cultivation under the misleading name of *Solidago missouriensis* or "Aster hybridus luteus." He then proceeded to give it the new name *Solidaster hybridus*.

The "generic" name *Solidaster* was validated under International Rules, Art. 32, by the indication of the two genera between which the cross was made. The so-called "generic" names of bigeneric hybrids, unlike true generic names, do not require the provision of a description in order to validate their publication. They really correspond to a telescoped formula. Thus × *Solidaster* is an abbreviation of *Solidago* and *Aster*.

As the name *Solidaster* antedates *Asterago* it stands as the "generic" name of the hybrid.

The specific name *Solidaster hybridus*, however, was not validly published, as it was not accompanied by a description, nor by a reference to a previously and effectively published description (see International Rules, ed. 3, Art. 37). The correct name of the hybrid therefore becomes × *Solidaster luteus* (Everett) M. L. Green (*Aster ptarmicoides* × *Solidago* sp.).

It is possible that in some horticultural journals or elsewhere, a technical description of *Solidaster hybridus* may have been published, but up to the present it has not been traced.

The following is a list of synonymy :—

× **Solidaster** *Wehrhahn* in C. Bonstedt, Pareys Blumengärtnerei, **2,** 525 (1932).

× *Asterago* Everett in Gard. Chron. 1937, ser. 3, **91,** 6.

×**Solidaster luteus** (*Everett*) *M. L. Green*, comb. nov.
×*Solidaster hybridus* Wehrhahn, l.c.
×*Asterago lutea* Everett, l.c.

XXXV—ON THE STATUS OF THE NAME BURSERA SUBSESSILIFORMIS ENGL.

A. A. Bullock.

In the second edition of the " Pflanzenfamilien " (Band **19a,** 426 : 1931) Engler appears, at first sight, to have omitted the species *Bursera submoniliformis* Engl., which was included in the first edition (**3,** 4, 251 : 1896), as well as in his original monograph of the genus (DC. Monogr. **4,** 55 : 1883). In a comparable position in the key, however, he placed *Bursera subsessiliformis,* Engl., a name previously unpublished.

The writer had the privilege some time ago of examining the material of *Bursera* in the Berlin herbarium,* and the name *B. subsessiliformis* was not seen on any sheet. The absence of the name in the Berlin herbarium has been confirmed by Dr. Harms (in litt. 25 May 1937).

The writer suspected that Engler's *B. subsessiliformis* was a lapsus calami, since the description of *B. submoniliformis* in the first edition of the " Pflanzenfamilien " and that of *B. subsessiliformis* in the second edition, were almost identical. These, extracted from Engler's keys, are given below in tabular form, the reference letters being omitted :—

Ed. 1, **3,** 4, p. 251.	Ed. 2, **19a**, p. 426.
Bursera submoniliformis.	Bursera subsessiliformis.
Blattstiel schmal oder breit geflügelt.	Blattstiel und Rachis ± geflügelt.
Blätter einpaarig-gefiedert, bisweilen einzelne gedreit.	Blätter einfach gefiedert.
Die ausgewachsenen Blätter beiderseits ± dicht behaart.	Ausgewachsene Blättchen beiderseits behaart.
Die Adern der Blätter unterseits nicht hervortretend, die Seitennerven bisweilen deutlich.	Blättchen nicht lederartig.
Blättchen am Rande gekerbt oder gesägt.	Blättchen ± gezähnt.
Blüten gestielt.	Blüten gestielt.
	Früchte behaart.
B. submoniliformis (L. March.) Engl. mit dicht gelbfilzigen, dünnen, 6-paarigen Blättern, in Mexiko.	*B. subsessiliformis* Engl. in Oaxaca.

It will be observed that the only essential differences in the two descriptions consist of the additional information that the fruit of *B. subsessiliformis* is hairy, and that it occurs in Oaxaca, whereas the

*Kew Bull. 1936, 346.

fruit of *B. submoniliformis* was unknown, and the species was given the much less definite habitat " Mexiko."

In Engler's original description of *B. submoniliformis* the *locus classicus* is stated to be " Rio Vuellas " where it was collected by Liebmann, and Engler was apparently unaware that this locality is in the state of Oaxaca. This information was supplied by Rose (N. Amer. Fl. **25**, 255 : 1911), who also described the fruit as pubescent. It is evident that Engler made use of this additional information in the second edition of the " Pflanzenfamilien."

A further point in favour of the argument that *B. subsessiliformis* is a lapsus calami for *B. submoniliformis* is to be found in the fact that one of the names immediately preceding it is *B. sessiliflora*, and it is thus easy to see how *B. subsessiliformis* may have been written in place of *B. submoniliformis*.

XXXVI—NOTES ON CAREX: I.

A New Species From the Malay Peninsula. E. Nelmes.

In 1925 Mr. M. R. Henderson, Curator of the Singapore Botanic Gardens, collected a sedge on Cameron's Highlands, in the State of Pahang, Malay Peninsula. The locality is a wet spot above the main forest zone which has been cleared of its trees and drained, so that the plant, which proves to be new, may soon be lost.

Carex elibates *Nelmes*, sp. nov. ; affinis *C. maculatae* Boott, sed foliis rigidioribus culmo brevioribus, spica terminali normaliter gynaecandra, spicis magis approximatis brevioribus elliptico-oblongis, utriculis erostratis vel brevissime rostratis differt.

Culmi caespitosi, usque ad 30 cm. alti, e rhizomate brevi orti, graciles, rigidi, angulis apicem versus scabridis. *Folia* angusta, 2–3 mm. lata, rigida, culmis plerumque breviora, marginibus et supra nervis scabrida, pallide viridi-glaucescentia, planiuscula, tenuiter striata, culmorum basin versus numerosa et conferta, vaginis conspicuis rubido-brunneis membranaceis. *Spicae* 3-5, plerumque 4, breves, 1–2 cm. longae (pedunculo excluso), approximatae vel infima nonnunquam plus minusve distans, elliptico-oblonga, inferiores pedunculatae, superiores subsessiles, castaneae, terminalis basi interdum apice mascula raro omnino mascula, ceterae omnino femineae. *Bracteae* foliaceae, strictae, duae inferiores inflorescentiam superantes, supra et marginibus scabrae, vaginantes, inferiorum vaginis 6–12 mm. longis. *Squamae* ovatae vel ellipticae obtusae vel acutiusculae, nonnunquam mucronulatae, carinatae, carina dorso viridi, castaneae. *Utriculi* late elliptici, sed glumis aequilongi vel paullo longiores, erostrati vel brevissime rostratis, 2–2·5 mm. longi, dorso prominenter 5–6-nerves, facie planiuscula tenuiter nervosi, marginati, dense et minutissime rubro-papillosi. *Nux* late elliptica, 1·5 mm. longa, trigona, minutissime papillosa. *Stylus* modice crassus. *Stigmata* 3.

Carex elibates Nelmes. 1, complete plant; 1a, inflorescence with terminal spike wholly male; 1b, normal inflorescence; 2, female glume; 3, utricle; 4, nut. 1–1b, natural size; 2–4, × 12.

Malay Peninsula: State of Pahang; Batu Brinchang, Cameron's Highlands, 2,000 m., on the cleared top of the hill, Nov. 22, 1925, fruiting, *M.R. Henderson* 17,901 (type); April 9, 1930, immature, *Holttum* sine num.; April 9, 1930, fruiting, *Holttum* 23,527; May 25, 1931, fruiting, *Symington* 20,839; summit of Gunong Irau, April 14, 1934, fruiting, *Symington* 36,554.

The nearest ally of *C. elibates*, *C. maculata* Boott, occurs from India to Japan and Sumatra, and its var. *neurochlamys* (F. Muell.) Kükenth. in north-east and east Australia and in Polynesia.

These species belong to a section of the subgenus *Eucarex* Coss. et Germ., by far the largest of the four subgenera of *Carex*, and common in temperate regions but rarely found in the tropics. There are, in fact, very few tristigmatic members of *Eucarex* found in Malaya, and equally few other species of Malayan *Eucarex* belong to the distigmatic section *Acutae*. The greater number of the Malayan *Carices*, numbering about forty, are placed in the small paniculate subgenus *Indocarex* Baill., which is almost unrepresented in temperate regions. Tropical species mainly belong to *Indocarex*.

The most interesting point about *C. elibates*, however, is that it differs from *C. maculata* and most other species of *Eucarex* in the nature of its terminal spike. About 90 per cent. of the members of *Eucarex* have one or more of their upper spikes wholly male, while the lower ones are female, sometimes with male tips. The remaining 10 per cent., mainly comprising the section *Atratae*, have all their spikes female, except that the terminal spike is male at the base. The *Atratae* are mainly arctic and mountain species, and the gynaecandrous* nature of their terminal spike may bear some relation to their type of habitat. Now, *C. elibates* shows, in the four gatherings from Cameron's Highlands, three types of terminal spike. The majority of the culms have the terminal spike female with a male base, but in a few this spike is wholly male, and in several others male at both ends with some female flowers in the middle. *C. elibates* is almost unique in this variable character, and may represent a link in the evolution of the gynaecandrous state.

It should be mentioned that *C. elibates*, though apparently allied to the *Atratae*, by reason of its gynaecandry, has stronger affinities with the section *Maximae* Aschers., which, incidentally, includes several gynaecandrous species. Its nearest ally, however, *C. maculata* Boott, invariably has a male terminal spike.

XXXVII—MISCELLANEOUS NOTES.

Sir David Prain.—Sir David Prain celebrated his 80th birthday on Sunday, July 11th. To mark the occasion a letter was sent to Sir David, signed by ninety-five former colleagues and scientific

* The term *gynaecandra* is used by Kükenthal in *Carex* to denote a spike (*spicula*) in which the upper flowers are female and the lower ones male, as in the terminal spike of *Carex nigra* All.

friends, conveying their congratulations. In the course of the letter, the hope was expressed that Sir David may continue for many years to enjoy good health and be able to carry on the many activities which are so greatly benefited by his wide knowledge and sympathetic interest. This wish will be echoed by all who have been privileged to know him.

Dr. E. G. S. Brown.—E. G. S. Brown, B.Sc., PhD., Assistant Lecturer, Department of Botany, University of Edinburgh, has been appointed to the post of Temporary Botanist in the Herbarium, to succeed Mr. A. R. Horwood, whose death was recorded in K.B. 1937, 121.

Sir Cecil Hanbury.—We have to record with deep regret the death on June 10th of Sir Cecil Hanbury, M.P., at the age of 66.

Among horticulturists Sir Cecil will be remembered for the remarkable garden at La Mortola, near Ventimiglia, which was founded by his father, Sir Thomas Hanbury, and which Sir Cecil and Lady Hanbury developed into one of the finest private gardens in Europe. In addition to the collection of living plants, which was especially rich in representatives of the floras of South Africa, and South and Central America, a botanical museum, herbarium and library are maintained.

A few weeks before his death, Sir Cecil had brought to Kew, for checking, the manuscript of a new edition of the list of plants growing at La Mortola, which had been compiled by Lady Hanbury and himself. This list includes a history of the gardens, and it is hoped that it will shortly be published.

Under Sir Cecil's direction, the relationship between La Mortola and Kew has been very close. Not only has constant interchange of plants and seeds taken place, but, several years ago, it was arranged for a Kew student to spend a year at La Mortola, while an Italian gardener took his place in England. This exchange of students has since been continued, to the mutual benefit of both establishments. It is interesting to note that out of this arrangement has grown the present series of exchanges, at present numbering thirteen, between Kew students and young gardeners in Empire and foreign countries in many parts of the world.

In addition to his work for horticulture, Sir Cecil's activities extended into many and varied fields. He served in the Admiralty and Foreign Office during the War, and had been the Member of Parliament for North Dorset since 1924.

As a member of the Governing Body of the Imperial College of Tropical Agriculture, Trinidad, Sir Cecil's wide experience and sound judgment were of great service. Always a wise counsellor and a kind and generous friend, his loss will be deeply felt not only at Kew but by a very large circle of his friends and colleagues.

Sir Oscar Emanuel Warburg.—We record with deep regret the death on July 1st of Sir Oscar E. Warburg, O.B.E., at the age of 61.

Sir Oscar, who was Chairman of the London County Council in 1925–26, was a keen botanist, and at his garden at Boidier, near Epsom, he had brought together a fine collection of plants, especially *Quercus*, *Cistus* and *Sorbus*. On the first two genera he and his son, Dr. Edmund Warburg, were recognised authorities, and they published valuable papers on them in the " Journal of the Royal Horticultural Society " (vol. 58, p. 176, and vol. 56, p. 1).

Sir Oscar paid frequent visits to the Mediterranean to study and collect cistuses and he was in touch with botanists in all parts of the world, who sent him acorns and young plants for his collection of oaks. Sir Oscar was a good friend to Kew, and was always ready to share with the Gardens material of rare or interesting plants. His untimely death will be a real loss to the horticultural world.

The Treub-Foundation.—In memory of Dr. Melchior Treub, the celebrated Director of the Botanic Gardens, Buitenzorg, a Treub Fund was established with monies collected in the Netherlands East Indies. This has now been constituted as the Treub-Foundation and has been given proper legal status.

The Foundation is intended to co-operate in maintaining and in extending the scope of the scientific institutions united under the name of the Government Botanic Gardens in Java, especially the Botanic Gardens at Buitenzorg, the Mountain Gardens at Tjibodas, the Treub Laboratory, the Herbarium and the Marine Laboratory at Batavia.

The Foundation intends to support research and issue publications ; the publication of Dr. Docters van Leeuwen's recent fine Treatise on Krakatau, it may be mentioned, was largely subsidised from the fund.

Donors, Patrons, Subscribers and Corresponding Members have been instituted—Donors contributing Fl. 500, or Fl. 1,000 in the case of Corporations, Patrons Fl. 100 and Subscribers Fl. 10 annually.

Corresponding Members will be those who have rendered service to the Gardens or contributed to research in the East Indies and would be given facilities for working in the Gardens or Laboratories. The Director has been asked by the Board of the Foundation to be a Corresponding Member and to collect any monies that may be contributed in Great Britain for the purposes of the Foundation, and he has agreed to act in that capacity. Any contributions, therefore, should be sent to Sir Arthur W. Hill, Royal Botanic Gardens, Kew, who will forward them to the Secretary of the Fund at Buitenzorg.

Ricinodendron Rautanenii in Nyasaland.—A specimen (no. 757) received from Mr. J. B. Clements, Conservator of Forests, Nyasaland, bearing the names "Mkomwa" (chiNyanja) and "Mkangaula" (chiYao) proves to be *Ricinodendron Rautanenii* Schinz; it was collected on the Lake Plain in the South Nyasa District. This is the first record of this species from Nyasaland, though it is common in the Zambesi Basin in Southern and Northern Rhodesia.

The occurrence of the genus *Ricinodendron* in the "low country" of Eastern Tropical Africa tends to confirm a suggestion made by the writer some years ago that the deep narrow and hot gorge of the Zambesi had acted as a corridor for the migration of low country species from the Eastern Coastal Plain westward onto the plateau of Central Africa, at altitudes greater than those normally reached by similar floristic types. It adds one more link in the chain of confirmatory evidence that at some earlier geological time the forest of Central Africa was more homogeneous than it is to-day, and that genera peculiar to low elevations in Tropical Africa then ranged from east to west of the Continent, this distribution having been broken by a subsequent elevation of the plateau, with a consequent lowering of the minimum temperature. J. Burtt Davy.

British Trees and Shrubs.*—The aim of this volume is set forth by the author as follows: "In this book I have attempted to teach students to distinguish our native woody plants and many cultivated ones by means of curt diagnoses somewhat like those that are the strength and beauty of Hooker's *Student's Flora*; I have shown how these plants fit into, and illustrate, Engler's System, which I still believe to be the best system devised; and lastly I have tried to show in footnotes that the names by which botanists call these plants are no mere abracadabras put together by illiterate scientists, but that many, at any rate, of them are words known and understood by educated men for at least 2,000 years."

The volume thus forms a companion to the same author's "Catkin-Bearing Plants" published some years ago, and will undoubtedly receive a welcome from those who appreciated the clear descriptions and original treatment of the earlier volume.

On the whole, the author has successfully carried out his threefold plan. It might be reasonably objected that some of the "curt diagnoses" are too curt, and fail to give a picture of the plant adequate for identification. Some of the genera, however, are more fully treated, and in *Ulmus* the result is one of the best short accounts of the British elms available.

In the preface, and at the beginning of the sections on many of the major groups, Mr. Gilbert-Carter makes brief but suggestive remarks on questions of relationship and phylogeny.

* "British Trees and Shrubs, including those commonly planted: a systematic introduction to our Conifers and woody Dicotyledons." By H. Gilbert-Carter. Clarendon Press, Oxford, 1936. Pp. xv+291. Price 12*s.* 6*d.*

The author points out that modern specialization is far from being an unmixed blessing: "In Cambridge, and probably elsewhere, the student of science never refers to a Latin dictionary, which he considers as outside his life and work, while the student of classics often conceives science as outside the bounds of civilization" (preface, p. xiii). Among professional botanists, wide-spread ignorance of the meaning of botanical names, and continual mispronunciation of them, are a natural result of this narrow mental attitude. So far as the names of British trees and shrubs are concerned, however, the concise derivations and indications of pronunciation now supplied by Mr. Gilbert-Carter will remove all excuse for ignorance or solecism. This part of the work is admirable: it is only occasionally that the author has guessed at a derivation, as in *Abutilon megapotamicum*, so named, not because of "growing by the great river (the Amazon)" but because it is a native of the State of Rio Grande do Sul, in the extreme south of Brazil.

All long vowels are marked with the usual straight line, the short vowels being unmarked. A few simple rules of pronunciation given in the Introduction are here reproduced:—

"ACCENT. Plant names must be treated as Latin words and conform to the Latin rules of accent. Words of two syllables are accented on the first syllable. Examples: *álbus, níger.* Words of more than two syllables are accented on the last but one if it is long. Examples: *radícans, Myríca.* If the last syllable but one is short, the accent falls on the last but two. Examples: *frúticans, lúteus.* In pure Latin words a vowel before another vowel, not forming a diphthong, is short. Examples: *lúteus, aúreus.* This does not apply to Greek words [e.g., *gigantéus* derived from γιγάντειος].

"SYLLABLES. If a consonant comes between two vowels, it belongs to the same syllable as the vowel that follows, and the syllable before it is long or short according to the length of the vowel. Where two or more consonants occur together, the first one, as far as accent is concerned, ends a long syllable whether the vowel of that syllable, is by nature, long or short. Examples: *nigréscens, palústris.*"

The nomenclature adopted appears to be correct in most cases: when in doubt, the author has adopted the name used in Rehder's Manual of Cultivated Trees and Shrubs (1927), but he has apparently not seen the list of Corrections and Emendations issued by Rehder in 1935. *Larix Kaemferi* Sarg. (non Gord.) should be *L. leptolepis* Murr., and *Carya alba* K. Koch (non Nutt.) should be *C. tomentosa* Nutt., these being changes required by the rejection of later homonyms in 1930. *Helianthemum Chamaecistus* Mill. should be *H. nummularium* (L.) Mill. The correct name for the Cedar of Lebanon is *Cedrus libani* Loud., Hort. Brit. ed. 1, 388 (1830), where it was validated by citation of *Pinus Cedrus* L. *Cedrus* had been recognized as a distinct genus in 1757 by Trew (Cedr. Lib. Hist.), who gave diagnostic characters separating it from *Larix*, *Abies* and *Pinus*.

While commending a certain group of botanists for their scrupulous adherence to the International Rules of Botanical Nomenclature, the author himself has set a bad example by declining to follow the Rules as regards priority of specific names, and those concerning the spelling of generic names and specific epithets, where these entail divergence from the etymologically or classically correct form. Had he devoted as much study to botanical nomenclature as he has to philology, we might have been spared the pontifical pronouncement (p. x.) that he was "unable to take seriously Art. 70 of the Rules in so far as this article enjoins the perpetuation of mis-spelling." Examination of the various attempts to reform the spelling of botanical names by St. Lager, Ascherson, Otto Kuntze, Clements and others, shows that the same names have frequently been "corrected" in several different ways by different "experts." For this and other good reasons, successive International Botanical Congresses decided that the original spelling of botanical names must be retained except in cases of typographic or unintentional orthographic error. When Linnaeus named a genus in honour of Gleditsch, he *deliberately* latinized that name in the form *Gleditsia*, because he considered the combination of letters "tsch" an impossible one in Latin. Linnaeus published the name *Pyrus* for a genus of *Icosandria*. To ascribe the *generic* name *Pirus* to Linnaeus on the ground that the Latin word for a pear tree was *pirus*, not *pyrus*, is a mis-statement of fact, greatly to be deprecated in scientific nomenclature.

The author has failed to give double author-citations where these are required under the type-method, and he has also omitted to give the authorities for generic names. These defects should be remedied in a future edition.

More care might have been taken in correcting the proofs: *Lycium halimifolium* is consistently mis-spelt "*halamifolium*" four times on p. 262, although the derivation from *halimus* is given in a footnote. "*Vaccinium vitis Idaea*" (unhyphened) occurs three times on p. 235; *Clematis* "*vitalba*" should be *C. Vitalba*, the specific epithet being a former generic name; *Lonicera Periclymenum* appears correctly on p. 275, but as "*periclymenum*" on p. 93. The eponym of *Caesalpinia* is Andrea Cesalpino not Andreas Caesalpini. These and the other points criticized above are, however, but minor blemishes in a very attractive and scholarly book.

T. A. Sprague.

Printed under the authority of His Majesty's Stationery Office
By the South Essex Recorders, Ltd., High Road, Ilford.

(1231) Wt. 16/32 800 8/37 S.E.R. Ltd. **Gp. 381**